

REMARKS

Claims 1-53 are pending in the present application. Claims 1-53 stand rejected. Claim 50 has been amended and new Claims 54-77 have been added herein. Reconsideration is respectfully requested in light of the following remarks. The following remarks are believed to be fully responsive to the outstanding Office Action and to render all claims at issue patentably distinct over the references cited.

The Examiner has rejected Claim 50 under 35 U.S.C. §102(e) as allegedly being anticipated by Speller, Jr. et al. (U.S. Patent No. 5,829,115). This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct over the cited reference.

Notwithstanding, independent Claim 50 has been amended to state that a generally stationary die is always aligned with the punch. It should be appreciated, however, that the entire die and punch tool may be moved by a robot. Support for this amendment can be found in at least the originally filed Figures 3, and 12a-12f, and the accompanying text. In contrast, Speller, Jr. et al. does not disclose the presently claimed combination of elements, especially as amended, and actually teaches away from the claimed invention since in Speller, Jr. et al., a lower rivet upsetting anvil 50 is movably driven by motorized screw 22 (see column 4, lines 4-8), and since a movable drill 180, hole probe 182, shave tool 184, seal tool 186 and a riveter 188 (see column 6, lines 50-66) are movably positionable relative to the joint such that the riveter is not always aligned with the die. It is also worth noting that new Claim 54 does not add new subject matter and is fully supported by the originally filed application on page 4, paragraph [0011]. Moreover, all of the other newly added claims are fully supported by

the originally filed specification and drawings. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

The Examiner has rejected Claims 1, 2, 4, 6, 7, 12, 13, 15, 20, 21 and 50 under 35 U.S.C. §103(a) as alleged being unpatentable over Speller, Jr. et al. (U.S. Patent No. 5,829,115). This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited reference. For example, there only appears to be a single sensor 510 in Speller, Jr. et al. which is a rotary position/velocity sensor in order to monitor the motion of the armature shaft; this sensor is not used for “detecting a riveting characteristic occurring during the riveting process, the riveting characteristic consisting essentially of at least one of: (a) riveting force, (b) rivet punch assembly location, (c) rivet size, and (d) workpiece thickness” as stated in independent Claim 1, and is not “operable to sense riveting force” as stated in independent Claim 12. Also, the Speller patent does not disclose an “electrical control unit operably determining if a riveted joint is within a desired range” and “a substantially stationary die always aligned with the punch” as is recited in independent Claim 50. There is also no teaching of at least dependent Claims 6, 7 and 20 by Speller, Jr. et al.

Additionally, the Examiner’s riveting force sensing obviousness argument is respectfully traversed. While in a purely theoretical sense, velocity is mathematically related to acceleration which is one component of a force determination, there is no teaching in Speller, Jr. et al. that the mass of the components are known or that the control unit is capable of receiving, recognizing, determining, comparing, and/or using a rotational velocity signal in any manner related to actual riveting force. Even if the sensor of Speller, Jr. et al. is capable of generating a force signal (which is not

admitted), there is no teaching in Speller, Jr. et al. that the controller is capable of recognizing and using the signal in any manner related to actual riveting force, thereby not teaching all of the elements of the presently claimed invention. The Examiner is respectfully requested to reread the portions of the Speller, Jr. et al. reference pertaining to the armature sensor 510 and controller 506. The suggestions for this combination are lacking and, moreover, the secondary considerations hereinafter weigh in favor of nonobviousness. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 3, 8, 14, 51 and 52 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of Gast (U.S. Patent No. 4,901,431). This rejection is respectfully traversed. All of the originally filed claims are believed to be patentably distinct over the cited references. Furthermore, there is no suggestion or motivation for combining the cited references, especially since significant reengineering would be required to combine the pneumatic/hydraulic system of Gast with the screw drive system of Speller (which teaches away from such a combination (see column 1, lines 20-27 and column 2, lines 11-18, of Speller)). Notwithstanding, this rejection is deemed moot in light of the allowability of the base independent claims. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 5 and 16 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of Zeldman et al. (U.S. Patent No. 3,878,734). This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited reference. The suggestions for this combination are lacking and, moreover, the significant secondary considerations

discussed hereinafter weigh in favor of nonobviousness. Notwithstanding, this rejection is deemed moot in light of the allowability of the base independent claims. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 9 and 53 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Speller, Jr. et al. in view of Kinkel (DE 3301243). This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited references. In contrast to the Examiner's assertions, neither of the cited references teaches, suggests or motivates an "electrical control unit [which] continuously compares actual workpiece thickness signals to previously stored workpiece thickness signals substantially during rivet setting" as is claimed in Claim 53. In contrast, Kinkel teaches use of a monitor, video camera and point-of-light lamp used to measure part thickness prior to insertion of the rivet into the riveting machine. Also in contrast, Speller, Jr. et al. does not compare workpiece thickness signals at any time; the Examiner is improperly attempting to write computer software and/or control logic using hindsight reasoning given the benefit of the present claims as a template. The Examiner is requested to provide evidence of the alleged computer program or control logic in the prior art since there is none currently of record. With regard to Claim 53, it is also noteworthy that Kinkel teaches away from employing a generally stationary die (see independent Claim 50).

Additionally, the Examiner's comments on page 13 of the Office Action are unsupported and at least partially incorrect. Rivet dimensions are not always based on workpiece thickness. For example, rivet length may vary depending on different insertion depths desired of a self-piercing rivet for workpieces of the same thickness

and/or the number of workpiece sheets joined (e.g., three or more). Notwithstanding, this rejection is deemed moot in light of the arguments with regard to the base independent claims. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claim 10 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of Gerlach et al. (U.S. Patent No. 5,679,882). This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct over the cited references. In contrast, the cited references do not teach, suggest or motivate a second sensor acting as specified in dependent Claim 10 or its base Claim 1. There is no suggestion to make the combination alleged by the Examiner, especially in light of the significant secondary considerations discussed hereinafter. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claim 11 has been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of Smart et al. (U.S. Patent No. 4,988,028). This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct over the cited references. In contrast, the cited references do not teach, suggest or motivate a second sensor acting as specified in dependent Claim 11 or its base Claim 1. There is no suggestion to make the combination alleged by the Examiner, especially in light of the significant secondary considerations discussed hereinafter. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

The Examiner has rejected Claims 1, 2, 4-7, 12, 13, 15-21 and 50 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of Hatanaka (JP 04169828). This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited references. The Examiner's assumptions as to general knowledge are again respectfully challenged as lacking support, especially in light of the combination of other claim elements.

The presently claimed combination of elements in Claims 1, 2, 4-7, 9, 12, 13, 15-21, 50 and 53 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored the secondary consideration of commercial success as presented in the Declarations under 37 C.F.R. §1.132 by inventor D. Mauer, assignee's product manager Ralf England, and customer H. Konig of Audi. Additionally, a license with the Edison Welding Institute (hereinafter "the EWI License") for the present patent application is being filed herewith (portions of the EWI License have been redacted but the Examiner is requested to telephone the undersigned if the

examiner wishes to verbally discuss the redacted portions); the Examiner's attention is directed to Sections 3.1 and 3.2 of the EWI License. These Declarations and the EWI License are clear that the commercial success and significance in the industry are primarily based on the technical merit of the claimed invention. These Declarations and the EWI License must be given their proper objective and significant weight to defeat obviousness. See, *Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) ("secondary considerations must always . . . be considered"); see also, *Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) ("secondary in time does not mean that it is secondary in importance").

None of the references cited by the Examiner disclose all of the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. "Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit." *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not "pick and choose among the individual elements of assorted prior art references to recreate the claimed invention." *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). See also, *In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad "conclusory statements standing alone are not 'evidence'." *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); see also, *In re*

Dembiczak, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner's incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. ('115) with the hydraulically actuated machine of the Japanese Hatanaka reference. To the contrary, the third party, Audi employee declaration of Konig states, in paragraph 6, that the electric motor driven, rotary-to-linear transmission, with sensor control "technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems." (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, *Speller, Jr. et al. ('115)*, at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. See generally, *Winner Int'l Royalty Corp. v. Wang*, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), *cert. denied*, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not be desirable given the background of the *Speller, Jr. et al. ('115)* patent and statement of the Audi employee. This is even more significant given that the *Speller, Jr. et al. ('115)* patent is primarily intended for use to upset a two sided rivet adjacent the anvil 50 and not actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent).

As further evidence of secondary considerations supporting nonobviousness, Ekdahl et al. (U.S. Patent No. 5,727,300) explains, throughout columns 1 and 2, that there is a long felt but unsolved need for real time rivet inspection, that is being solved by the present invention. It is noteworthy that both the Ekdahl et al. and Speller, Jr. et al. patents pertain to the same aircraft riveting industry.

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring the Examiner to withdraw and overturn the instant rejection. The secondary considerations of commercial success, licensing, significance in the industry, long felt but unsolved need, and teaching away from by others require a finding of nonobviousness of the presently claimed invention.

The Examiner has made further factual errors with regard to the dependent claims. There is no teaching, suggestion or motivation by the cited references for the new and nonobvious combination of elements, especially when the additional elements of each of the dependent claims is considered. For example, none of the cited references specifically teach the additional feature of an electric motor torque sensor as claimed in dependent Claim 20. With all due respect, the Examiner is simply mistaken in his reading and application of the prior art. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 3, 8, 10, 11, 14, 51 and 52 stand rejected under 35 U.S.C. §103(a) as alleged being unpatentable over Speller, Jr. et al., Hatanaka and Gast. This

rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited references.

In contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 3, 8, 10, 11, 14, 51 and 52 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored or improperly discounted the secondary consideration of commercial success and licensing as presented in the Declarations and EWI License. These Declarations and EWI License must be given their proper objective and significant weight to defeat obviousness. *See, Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) ("secondary considerations must always . . . be considered"); *see also, Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) ("secondary in time does not mean that it is secondary in importance").

None of the references cited by the Examiner disclose the claimed features, nor is there a suggestion or motivation to combine the cited references, and

therefore, the claims at issue are patentably distinct over the cited references. "Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit." *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not "pick and choose among the individual elements of assorted prior art references to recreate the claimed invention." *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). *See also, In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad "conclusory statements standing alone are not 'evidence'." *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also, In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

More specifically, Gast generally relates to a feeding and riveting machine using pneumatically and hydraulically actuated components for inserting a fastener, pulling a fastener stem until it breaks, detecting the breaking of the fastener stem, and releasing the fastener stem. (See column 2, lines 46-51 of the Gast patent). Significant reengineering would be required to combine the very complicated features of the Gast reference with the others cited and there is no suggestion or motivation to do so. Moreover, the background section of Speller, Jr. et al. ('115) teaches away from its features being combined with hydraulics. Furthermore, this rejection is deemed moot in light of the allowability of the independent claims. The Examiner's assumptions as to general knowledge are again respectfully challenged as lacking support, especially in

light of the combination of other claim elements. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

The Examiner has rejected Claims 9 and 53 under 35 U.S.C. §103(a) as being unpatentable over Speller, Jr. et al., Hatanaka and Kinkel. This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited references. There is no suggestion or motivation to combine the references as asserted by the Examiner. In fact, significant reengineering would be required to combine the screw drive of Speller, Jr. et al. with the hydraulic drive of Kinkel, especially when considering the teaching away from such a combination in the background of Speller, Jr. et al. Notwithstanding, this rejection is deemed moot in light of the allowability of the base independent claims. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 22-30, 33, 34, 43 and 44 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of Cotterill et al. (U.S. Patent No. 5,752,305). This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the references cited.

In contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 22-30, 33, 34, 43 and 44 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re*

Rouffet, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored or improperly discounted the secondary considerations as presented in the Declarations under 37 C.F.R. §1.132 and the EWI License filed herewith. These Declarations and EWI License clearly note that the commercial success is primarily based on the technical merit of the claimed invention and that the claims of the present application are significant improvements in the industry. These Declarations must be given their proper objective and significant weight to defeat obviousness. *See, Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) (“secondary considerations must always . . . be considered”); *see also, Truswal Sys. Corp. v. Hydro-Air Eng’g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) (“secondary in time does not mean that it is secondary in importance”).

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. “Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not “pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.”

Symbol Technologies Inc. v. Opticon Inc., 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). See also, *In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); see also, *In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner's incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. ('115) with the hydraulically actuated machine of the Cotterill et al. reference. To the contrary, the Audi third party, employee declaration of Konig states that in paragraph 6 that the “technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems.” (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, Speller, Jr. et al. ('115), at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. See generally, *Winner Int'l Royalty Corp. v. Wang*, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), *cert. denied*, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not be desirable given the background of the Speller, Jr. et al. ('115) patent and statement of the Audi employee. This is even more significant given that the Speller, Jr. et al.

('115) patent is primarily intended for use to upset a rivet adjacent the anvil 50 and not actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent).

Moreover, it is significant that the electric motor disclosed in Speller, Jr. et al. ('115) upsets a conventional two-sided rivet on the anvil or die side of the machine. (See column 4, lines 4-10 of '115 patent). The Speller, Jr. et al. device is intended for use with a drill, a hole probe, a shave tool, a seal tool and a riveter in order to predrill a hole in the work piece, insert the rivet and upset the rivet. (See column 6, lines 50-54 and Figure 9 of '115 patent). This is significantly different than the self piercing rivet operation employed in the Cotterill et al. reference and as claimed at elements (e) and (f) in Claim 22, element (c) of Claim 34, and as element (c) of Claim 43. There is no suggestion or motivation to combine these very different types of fasteners.

As further evidence of secondary considerations supporting nonobviousness, Ekdahl et al. (U.S. Patent No. 5,727,300) explains, throughout columns 1 and 2, that there is a long felt but unsolved need for real time rivet inspection, that is being solved by the present invention. It is noteworthy that both the Ekdahl et al. and Speller, Jr. et al. patents pertain to the same aircraft riveting industry. Also, column 5, lines 12 and 13, of Ekdahl teaches drilling before the rivet is inserted, thereby teaching away from the presently claimed invention's use of self piercing rivets (for the applicable claims in the present application).

By way of further example, element (c) of Claim 34 includes setting the rivet "by the punch acting with a substantially relatively stationary die." The movable anvil of Speller, Jr. et al. '115 teaches away from this feature. It is also noteworthy that

neither Speller, Jr. et al. ('115) or Cotterill et al. teach, suggest or motivate "a sensor operable to indicate power consumption of the electric motor" as is claimed in independent Claim 43 as part of element (d).

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring reversal of the instant rejection. The secondary considerations of commercial success, licensing, industry significance, long felt but unsolved need, and teaching away from by others, as demonstrated by the declarations, EWI License, and noted references further require a finding of nonobviousness of the presently claimed invention. Furthermore, the Examiner's statement as to obvious design choices is respectfully challenged as lacking support, especially when viewed in combination with the other claim elements. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

The Examiner has rejected Claims 31, 32, 35-42 and 45-47 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al., Cotterill et al. and Gast. This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited references.

Further in contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 31, 32, 35-42 and 45-47 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner

to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability.” *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored or improperly discounted the secondary considerations as presented in the Declarations and EWI License. These Declarations and EWI License must be given their proper objective and significant weight to defeat obviousness. *See, Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) (“secondary considerations must always . . . be considered”); *see also, Truswal Sys. Corp. v. Hydro-Air Eng’g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) (“secondary in time does not mean that it is secondary in importance”).

As further evidence of secondary considerations supporting nonobviousness, Ekdahl et al. (U.S. Patent No. 5,727,300) explains, throughout columns 1 and 2, that there is a long felt but unsolved need for real time rivet inspection, that is being solved by the present invention. It is noteworthy that both the Ekdahl et al. and Speller, Jr. et al. patents pertain to the same aircraft riveting industry. Also, column 5, lines 12 and 13, of Ekdahl teaches drilling before the rivet is inserted, thereby teaching away from the presently claimed invention's use of self piercing rivets (for the applicable claims in the present application).

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. "Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit." *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not "pick and choose among the individual elements of assorted prior art references to recreate the claimed invention." *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). *See also, In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad "conclusory statements standing alone are not 'evidence'." *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also, In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring the Examiner to withdraw and overturn the instant rejection. The secondary considerations of commercial success, licensing, industry significance, long felt but unsolved need, and teaching away from by

others, as demonstrated by the declarations, EWI License, and noted references further require a finding of nonobviousness of the presently claimed invention. Furthermore, the Examiner's statement as to design choice is respectfully challenged as lacking support, especially when considered with the combination of other claim elements. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claim 48 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Speller, Jr. et al. in view of Hatanaka and Gast. This rejection is respectfully traversed. The originally filed claim is believed to be patentably distinct over the cited references.

In contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 48 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored or improperly discounted the secondary considerations as presented in the Declarations and EWI License. These Declarations and the EWI License must be given their proper objective and significant weight to

defeat obviousness. See, *Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) (“secondary considerations must always . . . be considered”); see also, *Truswal Sys. Corp. v. Hydro-Air Eng’g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) (“secondary in time does not mean that it is secondary in importance”).

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. “Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not “pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.” *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). See also, *In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); see also, *In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner’s incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. (‘115) with the hydraulically actuated machine of the Japanese Hatanaka reference. To the

contrary, the third party, Audi employee declaration of Konig states that in paragraph 6 that the “technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems.” (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, Speller, Jr. et al. ('115), at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. See generally, *Winner Int'l Royalty Corp. v. Wang*, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), *cert. denied*, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not be desirable given the background of the Speller, Jr. et al. ('115) patent and statement of the Audi employee. This is even more significant given that the Speller, Jr. et al. ('115) patent is primarily intended for use to upset a rivet adjacent the anvil 50 and not actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent).

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring reversal of the instant rejection. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claim 49 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Speller, Jr. et al., Hatanaka, Gast and Cotterill et al. This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct over the cited references.

Further in contrast to the Examiner's assertions, the presently claimed combination of elements in Claim 49 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored the secondary considerations as presented in the Declarations and EWI License. These Declarations and EWI License must be given their proper objective and significant weight to defeat obviousness. *See, Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) ("secondary considerations must always . . . be considered"); *see also, Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) ("secondary in time does not mean that it is secondary in importance").

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. “Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not “pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.” *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). *See also, In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also, In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner's incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. ('115) with the hydraulically actuated machine of the Japanese Hatanaka and Cotterill references. To the contrary, the third party, Audi employee declaration of Konig states that in paragraph 6 that the “technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems.” (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting

machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

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As further evidence of secondary considerations supporting nonobviousness, Ekdahl et al. (U.S. Patent No. 5,727,300) explains, throughout columns 1 and 2, that there is a long felt but unsolved need for real time rivet inspection, that is being solved by the present invention. It is noteworthy that both the Ekdahl et al. and Speller, Jr. et al. patents pertain to the same aircraft riveting industry. Also, column 5, lines 12 and 13, of Ekdahl teaches drilling before the rivet is inserted, thereby teaching away from the presently claimed invention's use of a rivet with a solid head and diverging open end which does not completely penetrate the workpiece farthest from the rivet's head.

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring reversal of the instant rejection. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

In view of the instant amendments and remarks, it is submitted that the present application is in condition for allowance. Accordingly, it is requested that the Examiner pass the case to issue at his earliest convenience.

Respectfully submitted,

Dated: January 29, 2004

By: 

Monte L. Falcoff
Reg. No. 37,617

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600